

ABSTRACT OF THE DISCLOSURE

[60] The invention relates to the detection of the binding of analyte molecules, for example biopolymer molecules, to immobilized capture substance molecules. The invention consists in using semiconductor wafers (chips) with electrical circuits in spatial
5 proximity to a surface area coated with capture substance molecules and loading the binding of the analyte molecules to the capture substance molecules with co-bound electrically conductive nanoparticles so that the nanoparticles can act upon the electrical circuits either through changes in the electrical stray capacitance or by
10 generating electric currents, thus making the binding of the analyte molecules electronically detectable.